

REMARKS

As a preliminary matter, Applicant gratefully acknowledges the allowance of subject matter in claims 4-7 and 11-14 if rewritten in independent form.

Claims 1-2 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hasegawa in view of Akram. Applicants traverse this rejection because Hasegawa in view of Akram fail to teach or suggest, a laser diode mounted on and electrically insulated from a substrate. The combined references also would not disclose or suggest a photodetector provided on the substrate and biased at a given voltage, as described in independent claims 1 and 8.

As shown in FIG. 8, the laser diode of the present invention is mounted on the substrate 76 and is electrically insulated from the substrate. Also, the substrate, itself, is biased at a given voltage so as to provide the necessary voltage to the photodetectors provided on the substrate. Signals leading out of these photodetectors are carried on a number of wires that lead into the terminals on the stem.

Hasegawa teaches mounting both a laser diode and photodetectors directly on the stem of an optical head. Accordingly, it does not disclose (or suggest) at least the claimed substrate on which the laser diode and a photodetector are provided.

The Akram reference discloses a printed circuit board having integrated circuit dice 22 that are directly and electrically connected to a conductive layer 28, which is provided on a substrate 32 (see Fig. 2). Accordingly, Akram also does not disclose a laser diode or a photodetector being provided on a substrate, since it teaches that the dice 22 are

provided on the conductive layer 28, and not on the substrate 32. Further, Akram teaches that a substrate bias voltage generator 38 supplies voltage v_{bb} to the backside of the dice 22 through the conductive layer 28 (see col. 4, lines 7-9). In contrast, the substrate itself is biased in the present invention.

Moreover, even assuming that the conductive layer 28 can be considered a substrate, Akram does not disclose that the dice 22 are electrically insulated from such substrate. On the contrary, Akram expressly teaches that the dice 22 are directly attached to the conductive layer 28 using a conductive die-attach material 30 (see col. 3, lines 36-38). For all these reasons, even if Akram were combined with Hasegawa, they still would not disclose or suggest a laser diode mounted on and electrically insulated from a substrate, or a photodetector provided on the substrate, which is biased at a given voltage, as described in claims 1 and 8.

Claims 3 and 8-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the base references Hasegawa and Akram and further in view of a number of other references. Applicants respectfully traverse these rejections for the same reasons given with respect to the rejection of claims 1 and 2.

For the foregoing reasons, applicants believe that this case is in condition for allowance, which is respectfully requested. The examiner should call applicants' attorney if an interview would expedite prosecution.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By

A handwritten signature in black ink, appearing to read "B. Joe Kim", with a long horizontal stroke extending to the right.

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